

Mr. Bennett has thus added six species to the Socotran list, viz.: *Anas boscas*, *Ch. streperus*, *Ph. roseus*, *Str. interpres*, *C. arenaria*, and *P. maruetta*, all of which, with the exception of the Flamingo, can be no more than winter visitants. The list would lead us to infer that the line of southward migration, of which the Red-Sea coasts are undoubtedly the arterial route, trends from the Straits of Babelmandeb westward along the East-African shores, then eastward by the southern coast of Arabia.

When we observe that, of the whole number of 26 species of terrestrial birds represented in the three collections, as many as seven are peculiar, so far as is known, to the island, and that two of them belong to a very remarkable genus, *Rhynchostruthus*, we may fairly infer that rich results will yet follow a more thorough exploration of the whole island. The occurrence of *Saxicola montana*, the only West-Asiatic form in the lists, is evidently not accidental, as it was obtained both by Prof. Balfour and Mr. Bennett.

XXIII.—*On the Avifauna of Franz Josef Land.* By WM. EAGLE CLARKE, F.L.S. *With Notes by WM. S. BRUCE*, of the Jackson-Harmsworth Expedition.

ON his return from a year's residence in Franz Josef Land, my friend Mr. Bruce kindly placed the birds collected by him in my hands for examination and record. Hence this contribution. I am glad to be able to include Mr. Bruce's useful and interesting Notes on the Land and its Birds. These appear in brackets with Mr. Bruce's initials.

It has been thought desirable to include in this contribution the names of *all* the species of birds which have been observed, or supposed to have been observed, in Franz Josef Land by the few explorers who have visited this, the most northern of archipelagos, and thus to make it a complete record of our present knowledge of its avifauna.

Certain species in the records, the occurrence of which in Franz Josef Land I consider to be extremely doubtful, are

particularized by having a query prefixed to them, and they are also not numbered. A few others in the list may, perhaps, require confirmation, but it is undesirable to exclude them, inasmuch as they are not unlikely to occur.

The materials for a complete account of the avifauna of Franz Josef Land are not voluminous. That this should be so is, no doubt, due to the fact that the archipelago remained undiscovered until the year 1873; and it has, for this and other cogent reasons, been comparatively little visited. Indeed, most of the islands of this extensive group have never been explored, and much remains to be accomplished before our knowledge of the birds, and more especially of their distribution, can be regarded as anything like complete.

The following works contain all that we know about the ornithology of the Franz Josef Land Archipelago; and to these frequent allusion will be made in this paper:—

1876. PAYER (JULIUS). *New Lands within the Arctic Circle. Narrative of the Discoveries of the Austrian ship 'Tegetthof' in the years 1872-1874.* [A translation of 'Die österreich-ungarische Nordpolar Expedition in den Jahren 1872-1874.' Wien, 1876.]

The Austrians under Lieut. Payer explored the eastern portion of the archipelago, from Wilczek Island in $79^{\circ} 51'$ N. lat., by Austria Sound to Cape Fligeley, on the western side of Crown Prince Rudolf Land in $82^{\circ} 15'$ N. lat.

A mere list of birds "found in the region between Novaya Zemlya and Franz Josef Land" is given in vol. ii. pp. 90, 91; and it is unsatisfactorily remarked that "most of these occurred also on the coasts of Franz Josef Land."

1881. FEILDEN (H. W.). *Some Remarks on the Natural History of Franz Josef Land.* Trans. Norfolk and Norwich Nat. Soc. iii. pp. 201-211.

This paper contains an account of the birds observed during Mr. Leigh Smith's first voyage in the 'Eira' to Franz Josef Land, in the summer of 1880, during which he explored and made many discoveries on the southern coasts of the archipelago.

1882. NEALE (W. H.). *Notes on the Natural History of Franz Josef Land as observed in 1881-1882.* Proc. Zool. Soc. 1882, pp. 652-656.

During this second voyage the 'Eira' was lost at Northbrook Island,

and Mr. Leigh Smith and his party wintered at Cape Flora, to which neighbourhood the Notes chiefly relate.

1897. NANSEN (FRIDTJOF). Farthest North.

Volume II. contains numerous allusions to the birds seen during the sledge and boat journey from the north-east of the archipelago to Cape Flora.

In addition to the above works there are two papers by Mr. (now Sir) Clements R. Markham in the Proc. Roy. Geogr. Soc. vol. iii. p. 129, v. p. 204, also describing Mr. Leigh Smith's two voyages, and these papers contain some allusions to the birds observed.

Finally we have Mr. Wm. S. Bruce's collection, made during his sojourn at Cape Flora, while an officer of the Jackson-Harmsworth Polar Expedition. The species obtained or observed during this expedition are nineteen in number out of a total of twenty-two for the archipelago: their names are marked with an asterisk in the following List. Five of the birds procured are new to Franz Josef Land.

Southern Franz Josef Land lies some 200 miles to the east of Spitsbergen, and 270 miles north of Novaya Zemlya. At the conclusion of this paper a comparison will be instituted between the bird-life of this region, which is the most northerly—lying, as it does, between 80° and 82° 30' N. latitude—and that of Novaya Zemlya and Spitsbergen.

[Franz Josef Land is an archipelago of about one hundred islands, mostly of very small size. The greater mass of the land is completely and permanently ice-covered, though probably this covering is of no great thickness. Here and there along the coast are narrow strips of non-glaciated land. Cape Flora is one of these strips, and is more or less typical of the whole series of headlands facing the Barents Sea, as well as of many farther north, although to the N.W. the land becomes lower. The strip of land at Cape Flora varies from about 200 yards to a quarter of a mile in width; the greater portion of this consists of a series of raised beaches from the sea-level up to about 80 feet; from

this level up to about 600 feet is a talus, made up of the débris that has crumbled away from the crags above, which consist of several layers of columnar basalt. Above this rises a dome of ice 1200 or 1300 feet high, which sweeps away mainly to the N.W., where it comes down to the sea, forming an ice-face in summer of from about 5 to 15 feet in height above water. The lower more or less flat ground (*i. e.* the 50 to 80 feet raised beaches) is swampy to the eastward, and in one or two places to the westward as well. At Elmwood, midway, there is a fresh-water pond; there is also a series of pools at the west end which we knew as the West Ponds. Nearly all this ground is covered with a rich carpet of grass, saxifrages, ranunculuses, poppies, &c. In the wetter places there is a very rich growth of mosses, and only in a very few places, as near Elmwood, is the ground bare and stony. This level ground is cut through deeply in many places by a series of gullies, which are watercourses, running down the talus and across this narrow plain. The talus is green with grasses, poppies, scurvy-grass, &c.; and at its summit, underneath the crags, is very green with an algous and mossy growth that appears to thrive upon the dung of the Looms. The crags themselves are richly covered with a red lichen, which is probably also largely enriched by the droppings of the bird. The Windy Gully rocks and talus lie to the E.N.E. of Cape Flora.

The Snow-Buntings build on the 50 to 80 feet raised beaches in the places described, and probably also on the talus. The Purple Sandpipers and Skuas also nest on this lower ground in the drier places. In the rocks above are Looms, Rotges, Kittiwakes, and Burgomasters.

The birds of Franz Josef Land, though plentiful as individuals, are not so numerous in species as in many other parts of the Arctic Regions. Those that we found nesting there were the Loom, the Rotge, the Black Guillemot (Dovekie), the Burgomaster Gull, the Kittiwake, the Ivory Gull, the Arctic Skua, the Fulmar Petrel, the Eider Duck, the Snow-Bunting, and the Purple Sandpiper.

The Loom nests at Cape Flora, Mabel Island, possibly also on Bell Island, Cape Forbes, and on some of the rocks further westward. At Cape Flora they are to be found in their thousands in the section of basaltic crags that face more or less S.W. at the back of Elmwood, and among them are a few Dovekies higher up. Further to the westward, where the rocks are less precipitous, are the Kittiwakes and a few Burgomaster Gulls, and these mingle a good deal with the Looms, so that one may find a group of Kittiwakes' nests completely surrounded by many nesting Looms. Still farther to the westward were a few Rotges' nests; but the chief part of the Cape Flora rocks for Rotges is that section which faces S.E., *i. e.* looks more or less towards Cape Gertrude, while they literally swarm in the Windy Gully rocks, and among these are numerous Dovekies.

A full description of Cape Mary Harmsworth as the breeding-place of the Ivory Gulls and Eider Ducks is given under their respective headings.—W. S. B.]

[?] *LINOTA* sp. inc.

Neale, P. Z. S. 1882, p. 654.

Dr. Neale remarks that he is uncertain about this bird. No specimens were obtained, but some old whaling hands among the crew of the 'Eira' called certain birds on the land by this name.

Mr. Bruce informs me that he did not see any Linnet-like bird during his residence in Franz Josef Land. The claim of this *Linota* to be included in the avifauna of Franz Josef Land, resting on the evidence it does, must therefore be regarded as unsatisfactory and requiring confirmation.

Linota holboelli has, however, long been known as an inhabitant of Spitsbergen, and breeds there; but as yet no species of *Linota* has been discovered in Novaya Zemlya. Heuglin (*Ibis*, 1872, p. 65) believes he saw a "*Linaria*" on Waigats.*

* [Mr. H. J. Pearson, saw Linnets on Waigats, and obtained adult *Linota linaria*, with nest and eggs, at Habarova (*supra*, p. 192).—EDD.]

1. *PLECTROPHENAX NIVALIS (Linn.).

Payer, op. cit. ii. p. 91; Feilden, t. c. p. 209; Neale, P. Z. S. 1882, pp. 653, 654; Nansen, op. cit. i. p. 308.

Mr. Bruce's collection contains adults, young, and a nest of the Snow-Bunting, which is quite common as a breeding-bird around Cape Flora.

The Snow-Bunting has come under the notice of all the explorers of Franz Josef Land, where it is widely distributed, for Dr. Nansen observed the bird at Torup Island, in latitude $81^{\circ} 30'$, in August 1895.

[The Snow-Bunting remained plentifully with us in the autumn of 1896 until the 14th of October, and the last was seen on the 30th. Thus this bird was the last species by eight days to remain with us. The sun disappeared about the 27th. The first seen in the spring of 1897 was on the 16th of April, and it was the last of the breeding-birds to arrive. About half-a-dozen nests were taken at Cape Flora, and no doubt many more could have been procured if desired. The nests were placed among stones; but one was on an exposed ledge of a rock, about five feet from the ground and just large enough to hold it; while another was in a deep crevice, and a third under an overhanging piece of turf. We saw the first young birds on the 26th of July, 1896, and the 10th of July, 1897.

The presence of this bird on Bruce Island is rather striking (it probably breeds there), since the island is almost ice-covered, one or two narrow strips near its edge being the only ground free from ice.—W. S. B.]

2. *CALCARIUS LAPPONICUS (Linn.).

Several fully adult males of the Lapland Bunting were obtained by Mr. Jackson at Cape Flora on the 28th of May, 1896. These specimens were exhibited at the meeting of the British Ornithologists' Club on the 17th of November, 1897 (Bull. Brit. Orn. Club, no. xlviii. p. xiv).

This species was an unlooked-for addition to the fauna of Franz Josef Land; for the archipelago lies not only far to the north of its previously ascertained distribution, but its physical conditions are of an order not likely to prove

attractive to the bird, and to induce it to become a summer visitor. Indeed, we can only regard Mr. Jackson's specimens as mere stragglers from Novaya Zemlya, where the species is uncommon during the nesting-season. It is quite unknown to Spitsbergen.

3. **OTOCORYS ALPESTRIS* (Linn.).

A female Shore-Lark, in immature plumage, in Mr. Bruce's collection was shot by Mr. Armitage on the 9th of June, 1897, near Elmwood, the station at Cape Flora.

This species is new to the avifauna of Franz Josef Land, which is, moreover, the most northerly region in which the bird has yet been observed. It is quite unknown in Spitsbergen, but is not an uncommon summer visitor to Novaya Zemlya. Whether this bird is more than a straggler to Franz Josef Land remains to be ascertained, but the probability is that it is a mere casual in that inhospitable region.

4. **NYCTEA SCANDIACA* (Linn.).

Strix nivea Payer, op. cit. ii. p. 91.

Nyctea scandiaca Neale, P. Z. S. 1882, pp. 653, 654.

The collection contains an adult female Snowy Owl, which was caught by Mr. Wilton near Cape Flora on the 26th of August, 1896.

This species appears to be not uncommon about Cape Flora, but whether it is a straggler to Franz Josef Land—where Lemmings and Ptarmigan appear to be unknown—or a summer visitor, is at present a matter of conjecture: Mr. Bruce inclines to the latter belief.

Dr. Neale remarks that it was the first bird to arrive at Cape Flora in the spring of 1882, a Snowy Owl having appeared there on the 8th of February, and again on the 16th and 19th of that month.

[The Owl captured by Mr. Wilton must have been ailing, for, as a rule, one cannot get within rifle-shot of these birds. They were frequently seen at Cape Flora in the summer and autumn of 1896, and they preyed upon young birds, chiefly the young Looms. The first for 1897 was seen by Mr. Heyward on the 29th of May, and Mr. Wilton saw one on the following day.

The nest of this Owl was not found, and it must remain uncertain whether this bird breeds in Franz Josef Land. Very likely it does, but I doubt whether it bred at Cape Flora in 1897.—W. S. B.]

5. *FALCO* sp. inc.

Falco candicans Neale, P. Z. S. 1882, pp. 653, 654.

Dr. Neale refers to the Greenland Falcon the "Falcon Hawk" seen on the 20th of April, 1882, at or near Cape Flora. No species of diurnal bird of prey came under the notice of Mr. Bruce and his companions during their sojourn in the archipelago, nor, indeed, has any been recorded by other explorers of Franz Josef Land.

The specific identity of the Falcon that from time to time visits Spitsbergen and Novaya Zemlya† has not been satisfactorily determined, but the whiteness of the specimens generally alluded to makes it probable that the Greenland bird is the one that wanders most frequently to these Arctic islands, including, it appears, Franz Josef Land.

6. **BERNICLA BRENTA* (Pallas).

Neale, P. Z. S. 1882, pp. 653, 654; ? Feilden, t. c. p. 209; Markham, Proc. Roy. Geogr. Soc. v. pp. 210, 216; ? Nansen, op. cit. ii. pp. 335, 435, 436.

The Brent appears to be the only species of Goose found in the region, and is no doubt the species alluded to under the name of 'Goose' or 'Geese' in the writings of Colonel Feilden and Dr. Nansen. The former records that traces of a Goose were observed by the members of Mr. Leigh Smith's first 'Eira' Expedition; and Dr. Neale says that during the second expedition made in that vessel Brent Geese along with Rain-Geese [Red-throated Divers] were seen and shot on the cliffs 700 feet above sea-level. He also states that a great many Brents came to the lowland near the pond at Cape Flora, but that no signs of a nest could be found anywhere.

† Heuglin, in 'The Ibis,' 1872, p. 61, considered the bird observed by him in Novaya Zemlya to be *F. gyrfalco*; but in his 'Reisen nach dem Nordpolarmeer' (1874), iii. p. 83, he treats of the Novaya Zemlya records under "*Falco* sp.?"

Dr. Nansen found traces of Geese, and a Goose's egg-shell, on Mary Elizabeth Island on the 1st of June, 1896. He also saw two Geese at Cape Fisher two days afterwards. All these localities are in the southern portion of the archipelago.

These birds emigrated from Cape Flora about the 22nd of September, 1881. Sir Clements Markham, quoting from Mr. Leigh Smith's Journal, mentions that these Geese began to arrive at Cape Flora in June, 1882, but that a Goose or Duck was seen on the 12th of March of that year.

[Mr. Wilton saw the first Brent Geese on the 10th of June, 1897, and shot one of the two seen. I also saw a pair on the same day. Brent Geese were seen again on the 13th and 14th. Towards the end of July I saw four or five, and Mr. Wilton saw others. The West Ponds were their chief resort.—W. S. B.]

7. *SOMATERIA MOLLISSIMA (Linn.).

Payer, *op. cit.* ii. p. 91 ; Neale, *P. Z. S.* 1882, pp. 653, 654 ; Nansen, *op. cit.* ii. p. 438.

There are two chicks, a few days old, in the collection. These Mr. Bruce obtained at Cape Mary Harmsworth, on the 7th of August, 1897.

The Eider Duck does not seem to be widely distributed in Franz Josef Land, though it appears to be not uncommon in the south, to which area all our information refers. Dr. Nansen only once mentions seeing it—namely, near Cape Fisher, where a flock was observed on the 4th of June, 1896. Dr. Neale merely includes it in his list, and tells us that it departed from Cape Flora in the autumn of 1881, on or about the 22nd of September.

[We saw the Eider Duck on only two occasions near Cape Flora—namely, on the 28th of August, 1896, when a single bird was seen ; and on the 15th of July, 1897, Mr. Wilton saw one male and one female.

At Cape Mary Harmsworth, on August 7th, 1897, I found an Eider Duck's nest with two young birds and an egg just on the point of hatching. Later in the day Mr. Wilton

and I saw many ducks and ducklings round the north end of the tongue of land. We saw five broods with their mothers, and there were many others swimming among the loose ice. Altogether there must have been several hundreds. This was really the only locality for the species found by the expedition in Franz Josef Land, for only two had been seen and secured at Cape Gertrude before my arrival.—W. S. B.]

8. *STREPSILAS INTERPRES (Linn.).

Dr. Koettlitz, of the Jackson-Harmsworth Expedition, informs us that on the 27th of May, 1896, he saw a Turnstone at Cape Flora—the only one that he observed in Franz Josef Land. This bird is an addition to the avifauna of the archipelago, to which it is probably a mere straggler, for it is a scarce bird in Novaya Zemlya.

[?] GALLINAGO sp. inc.

Neale, P. Z. S. 1882, p. 654.

I have little doubt that the supposed Snipe seen by the old whaling hands of Mr. Leigh Smith's second expedition to Franz Josef Land, as mentioned by Dr. Neale, was really the Purple Sandpiper—a bird which I know from experience is called by whalers a "Snipe."

It is almost needless to remark that no species of *Gallinago* is at all likely to occur in Franz Josef Land, or elsewhere in the high north; and a Snipe has never been seen either on Spitsbergen or Novaya Zemlya.

9. *TRINGA FUSCICOLLIS Vieill.

(Bull. B. O. C. no. li. p. xxxvi.)

Mr. Bruce's collection contains a skin of a female Bonaparte's Sandpiper, which was shot on the margin of the pond near the beach at Cape Flora, on the 28th of June, 1897, by Mr. Wilton. The bird was alone, and no other example was observed.

This bird is not only a new and remarkable addition to the ornithology of Franz Josef Land, but it is the first authentic example of this American species that has been obtained in Europe elsewhere than the British Isles, for the Icelandic record is not to be regarded as satisfactory.

The occurrence of this Sandpiper in Franz Josef Land, so far away from its accustomed haunts, is very remarkable; but almost equally remarkable is the fact that it should find its way there in the breeding-season. It has only visited the British shores during the migratory period in the autumn, and its occurrence in Franz Josef Land in summer admits of no satisfactory explanation.

[?] *TRINGA CANUTUS* Linn.

Payer, *op. cit.* ii. p. 91; Feilden, *t. c.* p. 210.

Lieut. Payer mentions the "Iceland Knot" as one of the birds observed by the Austro-Hungarian Expedition, but whether in Barents Sea or on the shores of Franz Josef Land is uncertain. Colonel Feilden, however, includes the Knot among the birds observed during Mr. Leigh Smith's first 'Eira' Expedition, opining that the "Brown Snipe," reported to him as one of the birds seen, was probably *Tringa canutus*. To this conclusion it is difficult, if not impossible, to assent, for reasons to be stated. I have little doubt that the bird observed by the explorers was the Purple Sandpiper—one of the commonest and most generally distributed species to be found on the shores of the Polar Sea, though one that had not, until now, been identified in this region.

On the other hand, the Knot is quite unknown, even as a bird of passage, nay even as a wanderer, to Spitsbergen, Novaya Zemlya, or other Arctic isles lying to the north of the Continent of Europe. Thus it is highly improbable that the Knot should find its way to Franz Josef Land, and there can be no hesitation in regarding it as one of those species the presence of which in the archipelago requires confirmation.

10. **TRINGA STRIATA* Linn.

The Purple Sandpiper is represented in the collection by two young birds, as well as two eggs, all of which were procured in the immediate neighbourhood of Elmwood (Cape Flora), where, Mr. Bruce informs me, this bird was quite common as a nesting species in the summer of 1897.

It is somewhat surprising that this bird, which is one of the commonest, most widely-distributed, and well-known species inhabiting the Northern Regions, should have hitherto remained unnoticed in Franz Josef Land, to the fauna of which it is now added for the first time.

I am strongly of opinion, however, that this bird is the "Iceland Knot" of Payer (op. cit. ii. p. 91); the "Brown Snipe," or Knot, of the first 'Eira' Expedition (Feilden, t. c. p. 210); and the "*Gallinago* sp. inc." of Dr. Neale's account (P. Z. S. 1882, p. 654) of the birds of the 2nd 'Eira' Expedition. It is not necessary to say more here in this connection, for the subject has already been discussed under *Gallinago* sp. inc. and *Tringa canutus*.

The chicks of the Purple Sandpiper obtained by Mr. Bruce were captured on the 4th and the 27th of July respectively. The first caught of these little birds appears to be only a day or two old; while the last obtained, though a mere chick, is clad partly in down and partly in sprouting feathers, and already shows the purple gloss on its dorsal plumage from which this species takes its popular name.

[I saw a number of Purple Sandpipers during July, August, and September 1896; and Mr. Wilton saw the first for the year on the 29th of May. On the 5th of June one came on the snow right up to the window-pane at Elmwood. Late in June a nest with eggs was found, and in July I captured two young ones. The first caught was with its parent, which tried to lure me away; the older bird was one of four, also accompanied by the mother.—W. S. B.]

11. CALIDRIS ARENARIA (Linn.).

Neale, P. Z. S. 1882, pp. 653-654.

Dr. Neale includes this species in his list of birds observed during Mr. Leigh Smith's second expedition; and he tells us that on the lowlands [at Cape Flora] the Snow-Bunting and the Sanderling were seen, but no nests were found.

The Sanderling does not appear to have come under the notice of the other explorers who have visited Franz Josef Land, and its occurrence there is doubtful. It has been

recorded for Waigats by Heuglin ('Reisen nach dem Nordpolarmeer,' dritter Theil, S. 118); but there is no record of its occurrence in Novaya Zemlya. It has occurred in Spitsbergen, but does not breed there.

12. *STERNA MACRURA Naum.

Payer, *op. cit.* ii. p. 91; Neale, P. Z. S. 1882, p. 654; Nansen, *op. cit.* ii. p. 295.

Mr. Bruce has adults, male and female, of the Arctic Tern, shot at Cape Flora, out of a party of four which appeared there on the 24th of June, 1897.

Although this species is undoubtedly a summer visitor to Franz Josef Land, yet there appears to be no information regarding its breeding; nor do we know much concerning it as a bird of the archipelago. Dr. Neale merely includes the Arctic Tern in his list of birds observed in the south during Mr. Leigh Smith's second visit, but without remark. Dr. Nansen only once mentions this bird in his diary, namely on the 8th of August, 1895, when two "Terns" were seen off the Isles of Hvidtenland. The Arctic Tern in all probability nests in Franz Josef Land, but it has not yet been found breeding by any of the explorers of the archipelago.

[On the 6th of August, 1896, I saw a pair of Terns at the end of Windy Gully, Cape Flora; and on the 24th of June, 1897, I saw two pairs of Arctic Terns at the west end of Cape Flora. Mr. Jackson shot a pair of these later in the day, a male and a female. These were the only occasions on which I saw Terns in Franz Josef Land. I saw a pair when off the east of Spitsbergen.—W. S. B.]

13. RHODOSTETHIA ROSEA Macgil.

Payer, *op. cit.* i. p. 285, ii. p. 91; Nansen, *op. cit.* ii. pp. 270, 272, 282, 283, 295, 297, 298.

When the Austrian explorers in the 'Tegetthof' were drifting in the ice south of Franz Josef Land in the latter part of the summer of 1873, they were fortunate enough to obtain a specimen of the rare Ross's Gull. This fact led ornithologists to surmise that in these new Arctic lands was to

be found, perhaps, one of the long-sought breeding-haunts of this interesting bird.

The experience of Dr. Nansen and his companion Lieut. Johansen in North-eastern Franz Josef Land during the summer of 1895 practically demonstrates that this Gull breeds in considerable numbers in that portion of the archipelago. During their long and arduous sledge-journey over the polar ice they first observed this bird when approaching Franz Josef Land from the north-east. The first example, an adult, was seen on the 14th of July. After that date one or two were observed almost daily; and on the 31st four came under notice. On the 1st of August Dr. Nansen writes in his diary (p. 283): "It would seem as if the Ross's Gulls kept to the land here; we see them almost daily." When nearing the small group of islands to which the name of Hvidtenland has been given, numbers of these birds were seen, and Dr. Nansen remarks (p. 297): "Yesterday [the 9th of August] we saw a number of them; they are quite as common here as any other species of Gull." On the following day, when off Liv Island, one of the group, he says (p. 298): "We could see a strip of bare land along the shore on the north-west side. Was it there, perhaps, the Ross's Gulls congregated, and had their breeding-grounds?"

[On the 5th of July, 1897, Mr. Jackson declared he had seen Ross's Rosy Gull. He noted the bird flying high up along with some Kittiwakes, and said that it flew into the cliff, at the back of Elmwood, along with them. My opinion is that it was probably a Kittiwake, and I think this bird should *not* be included in the list of birds seen or captured by the Jackson-Harmsworth Expedition. Only one of us saw the bird besides Mr. Jackson, and that individual had a good pair of binoculars, which he directed upon the bird. He neither noticed any rosy colour nor the wedge-shaped tail, both of which are distinctive characters.—W. S. B.]

[?] *LARUS ARGENTATUS* Gmel.

Nansen, *op. cit.* ii. pp. 206, 230, 235.

Dr. Nansen, when approaching Franz Josef Land over the

ice in June 1895, alludes on three occasions to seeing Gulls which were "probably Herring-Gulls (*Larus argentatus*)."

The Doctor's surmise was undoubtedly an erroneous one; for the probability of seeing this species beyond the 82nd parallel of N. latitude is not at all likely. The birds seen were probably Glaucous Gulls.

The Herring-Gull is quite unknown to both Spitsbergen and to Novaya Zemlya, and does not occur further north than the Arctic coast of the European Continent.

14. **LARUS GLAUCUS* Fabricius.

Payer, *op. cit.* ii. p. 90; Feilden, *t. c.* p. 209; Neale, *P. Z. S.* 1882, p. 652-653; Nansen, *op. cit.* ii. pp. 326, 331, 349, 414.

The Glaucous Gull has been observed by all those who have visited Franz Josef Land, where it seems to be widely distributed.

Dr. Neale found it breeding at Bell Island and at Cape Flora.

Dr. Nansen observed it at Frederick Jackson Island in the spring of 1896; and probably the birds seen by him in the north-eastern portion of the archipelago, and regarded as Herring-Gulls, were of this species. He has recently informed us that the surprising statement (*op. cit.* ii. p. 308) that on the 4th of August, 1895, "on the north side of the island [Torup Island] we found a breeding-place of numbers of Black-backed Gulls" was due to an error of his translator. The birds were Glaucous Gulls.

Dr. Neale tells us that these Gulls remained at Cape Flora in the autumn of 1881 until the end of October. Sir Clements Markham (*Proc. Roy. Geogr. Soc.* v. p. 216), quoting from Mr. Leigh Smith's diary, notes their return on the 5th of March, 1882.

15. **PAGOPHILA EBURNEA* (Phipps).

Payer, *op. cit.* ii. p. 90; Feilden, *t. c.* p. 210; Neale, *P. Z. S.* 1882, pp. 652, 653; Nansen, *op. cit.* ii. pp. 284, 295, 304, 326, 414.

Three chicks and an addled egg of the Ivory Gull are in

Mr. Bruce's collection. These specimens were, strange to relate, obtained on the low-lying ground at Cape Mary Harmsworth on the 7th of August, 1897. Cliffs are usually selected by this bird as nesting-sites. One of the chicks obtained is only a few days old, and the other two, though older, are still in the downy stage. The feet and bills of these young birds strike one as being much coarser and larger than those of other Gulls of the same age.

Dr. Neale mentions Cape Flora as a nesting-place, but Mr. Bruce tells me that, though seen constantly in some numbers, the Ivory Gull does not breed there; the only nesting-station known to him being at Cape Mary Harmsworth. Other nesting-places mentioned by Dr. Neale are at Cape Stephen, Bell Island, and Gray Bay; and according to Mr. Leigh Smith it breeds at May Island, placing its nest on the top of a low basaltic cliff (Proc. Roy. Geogr. Soc. iii. p. 131).

Dr. Nansen observed this Gull amid the polar ice far to the north-east of Franz Josef Land on the 2nd of June, 1895, when, he tells us, he shot two for food. These birds were afterwards not unfrequently seen by him when he was skirting the land; and in August they were found along with other birds at the Isles of Hvidtenland.

Dr. Neale records that in the autumn of 1881 the Ivory Gulls departed from Cape Flora at the end of October, and arrived there the following spring on the 20th of April. Dr. Nansen observed them for the first time in 1896 as early as the 12th of March, at his winter-quarters on Frederick Jackson Island.

[This bird was quite abundant in the autumn of 1896 at Cape Flora, and the last entry in my diary for this species was on the 3rd of October, when about twenty Ivory Gulls and several young ones were observed. In the spring of 1897 this bird was first seen on the 10th of April, when twenty at least were observed in the evening. I do not think that this bird breeds at Cape Flora, and my only experience with the bird as a breeding species is contained in the following account:—

August 7th. To-day we landed at Cape Mary Harmsworth,

and the first thing we noted was an immense number of Ivory Gulls, and from their demonstrations and shriekings it soon became evident that they were nesting. As we travelled across the low-lying spit we found this was so. Here there are five or six square miles, or more, of fairly level ground, more or less terraced, being evidently a series of raised beaches. This, if not the largest, is one of the largest areas of bare ground in Franz Josef Land. Beyond a few lichens and occasional patches of moss there is very little vegetation, only two flowering plants being found—a saxifrage and a grass, and these very sparingly indeed. There is very little actual soil, and the surface is rough and rugged with large stones. Scattered all over it are numerous freshwater ponds, the largest of them perhaps two hundred yards across. The first signs of the Ivory Gulls' nests were patches of old moss every here and there, which at first we could not make out. As we advanced we saw more of these patches, and these seemed more compact. On approaching closer to these the birds made still more vehement demonstrations, swooping down upon us, and giving vent to their feelings by uttering a perfectly deafening shriek close to our heads. Once in the midst of their nests—for these patches of moss were their nests—we had many hundreds of birds around us, first one swooping down to within a foot of our heads, and immediately after another. In some cases they actually touched us, and in one instance knocked the hat off a man's head. Most of the nests were empty, owing to the late date; but here and there was a single egg, and in two nests I found two eggs. Going on through this gullery we found that near certain nests, which were apparently empty, the birds made even more violent demonstrations than before, and in looking carefully about we descried a young Ivory Gull in its greyish-white downy plumage, and hardly visible against the stones, which were of a very similar colour. Even the older ones, which were more whitish, were difficult to see among the stones. These young birds would sit crouched in between two or three large stones, and one might at first sight take them

for stones also. On picking up a young bird the parents became quite distracted and threatened us more vehemently than ever. By-and-by we passed out of this gullery, but further along we could see others, each with many hundreds of these birds, and we advanced towards them. The gullery we left gradually became quiet; but the birds in the one which we were approaching were beginning to demonstrate in the same way as those at the last. The cries became louder and louder, and in a few minutes we were again in the midst of the deafening shrieks of a host of terrified yet defiant birds. Again they swooped down upon us, and it seemed quite likely that at any moment they might dash into our faces. So we passed on from gullery to gullery among many thousands of these birds. It was a magnificent sight; the sun was shining brightly in a blue sky, the air was clear, and these handsome birds in their pure white plumage added brilliancy to the scene. Each nest is, as I have said, composed of a pile of moss, in shape a truncated cone, and may be from 6 to 9 inches in height and from 18 inches to 2 feet in diameter. There is no hollow on the top of this more or less level pile, upon which the egg is deposited or the young bird sits. I noticed many dead young birds, some quite recently deceased, for they were still warm, while others had been dead for some time; in nearly every case their crania had been indented. Eight young birds were taken on board alive; seven of these reached the Thames on September 3rd, 1897, but next day six of these were dead, and the remaining one found its way to the Zoological Society's Gardens at Regent's Park.—W. S. B.]

16. **RISSA TRIDACTYLA* (Linn.).

Payer, *op. cit.* ii. p. 90; Neale, *P. Z. S.* 1882, pp. 653, 654; Nansen, *op. cit.* ii. pp. 295, 350, 438.

Mr. Bruce's representatives of the Kittiwake consist of two chicks taken on the 20th of July, 1897, and a half-grown bird taken a week or two later in August: all from nests at Cape Flora.

This bird is at least widely, if not generally, distributed

in Franz Josef Land. Dr. Neale records it as breeding in numbers in the south at Cape Flora in the summer of 1882; and Dr. Nansen observed it in the north-east, at the Isles of Hvidtenland, on the 8th of August, 1895. According to Dr. Neale, the Kittiwakes departed from Cape Flora, in the autumn of 1881, about the 22nd of September, and returned the following spring on the 6th of May.

[I noted the last Kittiwakes seen in the autumn of 1896 for the 5th of October, when they came under the notice of Mr. Wilton. The first was observed in the spring of 1897 on the 14th of April, and several were seen by Dr. Koettlitz on the following day. On the 24th they were observed returning from the westward. On the 25th there were plenty of them on the cliffs at Cape Flora. On the 19th of May the whole group of Kittiwakes—some 500 or 600—were sitting on the floes in the West Bay. I went to the top of the talus on the 1st of July with Mr. Jackson in search of eggs, and got, among others, fifty eggs of the Kittiwake and Loom. The Kittiwakes were nesting among the Looms on the ledges, and their roughly-made nests of grasses and mosses contained two eggs each. The eggs proved to be considerably incubated, as did also those of the Loom obtained at the same time.

The Kittiwakes are here the victims of the Skuas and Snowy Owls. The latter especially attack the young birds, while the Skuas rob the old ones of their food.

On the 16th of August the young Kittiwakes were not old enough to fly, and the crew of the 'Windward' captured several on the rocks. On the 28th of August, 1896, the young Kittiwakes were already leaving their nests. I labelled several of these, in case they should be captured elsewhere.—W. S. B.]

17. **STERCORARIUS CREPIDATUS* (Gmel.).

Long-tailed Robber-Gull, Payer, op. cit. ii. p. 90.

Lestris Feilden, t. c. p. 209.

Lestris sp. incog. Neale, P. Z. S. 1882, p. 654.

Stercorarius crepidatus and 'Skuas,' Nansen, op. cit. ii. pp. 326, 350, 414.

There is, perhaps, some little doubt as to whether all the Skuas that have been observed by the various explorers of Franz Josef Land should be assigned to one species, namely, the Arctic or Richardson's Skua. Mr. Bruce considers that the Skua which nests at Cape Flora belongs to this species; and Dr. Nansen tells us that the species seen by him was *Stercorarius crepidatus*. The other writers named in the bibliography given above were in doubt as to the identity of the species which came under their notice.

As yet we know little about this Skua and its distribution in the archipelago. At Cape Flora, in the south, it nests in some numbers on the lowlands near the shore. In the north-east Dr. Nansen observed this bird in the summer of 1895, and in the autumn at Frederick Jackson Island, where it was busily engaged chasing the Kittiwakes. He also saw it at the same island in the spring of 1896.

[On the 15th of April, 1897, Mr. Wilton saw the first Skua. It is not uninteresting to note that it was only on the day before and on this day that the Kittiwakes arrived.

Several pairs of Arctic Skuas were nesting about Cape Flora. We found the first nest, containing eggs, on the 27th of June, and on the 3rd of July another was found with eggs. The birds played antics when their nests were approached, pretending to be maimed in some way and trying to lure one after them. The Skuas also swooped down upon our dogs when they were near the nests.

I saw the Pomatorhine Skua (*Stercorarius pomatorhinus*) on the voyage out and home, but not actually on Franz Josef Land, though we shot it before we were out of the ice.—W. S. B.]

18. *URIA MANDTI Licht.

Uria mandti and *Grylle columba* Payer, op. cit. ii. p. 91.

Uria grylle Feilden, t. c. p. 209; Neale, P. Z. S. 1882, pp. 652, 653; Nansen, op. cit. ii. pp. 199, 410.

Mr. Bruce brought back with him a number of specimens

of this Black Guillemot, or Dovekie, in both adult and first plumages. This bird bred, Mr. Bruce tells me, in some numbers at Cape Flora, along with the still more numerous Little Auk.

According to Dr. Neale, a considerable number of Dovekies breed at the head of Gray Bay, and a good number at Cape Stephen, at Bell Island, and at Cape Flora. The bird came under Dr. Nansen's notice at the end of May 1895 on the ice far to the north-east of Franz Josef Land; but he does not again allude to it until the spring of 1896, when he (p. 410) mentions its arrival on the 10th of March, and alludes to its movements from the land to the sea at certain times of the day in company with the Little Auk. Dr. Neale states that the Black Guillemot departed from Cape Flora during the first week of September 1881, and returned to its old haunts on the 18th of February, 1882.

[On the 22nd of October several Dovekies were seen, and two of them shot by Mr. Armitage; these were the last of their kind seen in the autumn of 1896. On the 4th of March, 1897, Mr. Wilton saw the first Dovekie of the season. On the 17th the bird was seen in numbers at the Windy Gully Rocks.

The note of the Dovekie while flying is extremely delicate and beautiful—a kind of soft chirping. It is very distinctive, and one could easily tell whether the birds were about without seeing them.

The Windy Gully Rocks form a breeding-place of the Dovekies, and there they are dispersed among their more numerous friends, the Rotges. This species was much less abundant than the Loom.—W. S. B.]

19. **URIA BRUENNICHI* (E. Sabine).

Uria arra Payer, op. cit. ii. p. 91.

Alca arra Feilden, t. c. p. 209.

Uria bruennichi Neale, P. Z. S. 1882, pp. 652, 653; Nansen, op. cit. ii. p. 244.

In the collection are three adults in summer plumage, two obtained on the 13th of April, 1896, and one on the

27th of April, 1897; three young in down taken on the 11th and 24th of August, 1894; and a chick on the 27th of July, 1897: all from Cape Flora.

Though common enough in the south, there is no information regarding the bird elsewhere in Franz Josef Land.

Dr. Neale mentions that there are large "loomeries" at Cape Crowther, Cape Grant, Cape Stephen, Bell Island, and Cape Flora, and that a few breed at Cape Forbes. He found eggs, laid on the bare rock, on the 26th of June, 1882. From the "loomery" at Cape Flora 1660 of these Guillemots were shot in September 1881 by Mr. Leigh Smith's party for winter stores. Dr. Neale notes that it became very scarce at Cape Flora after the 10th of September, 1881. It arrived there, according to the same authority, on the 9th of March in the spring of 1882.

Dr. Nansen only once mentions Brünnich's Guillemot, namely on the 16th of June, 1895, when he shot a single bird some way to the north-east of the archipelago in lat. $82^{\circ} 19' N$.

[The Looms began to come down from the cliffs at Cape Flora on the 13th of August, 1896, and the descent lasted until August 24th. Several old birds came down with one young one; indeed I have seen as many as five accompanying it. It is a bold flight to take, for the cliffs where they are cradled are from 600 to 800 feet above sea-level, and these young birds are not able to sustain their own weight during so long an essay, but gradually come lower and lower until they strike with a heavy thud on the floe or land. Some quickly recover themselves and hurry away as fast as they can to the open water, while others are harried by the Burgomasters (*Larus glaucus*); and those that are killed afford food for the bears. Many of the young seem to perish, but perhaps this is due to the large number of old ones that had recently been shot for food, namely over 1400 for winter stores.

On the 25th of August I captured, labelled, and set free nineteen young Looms, but have not yet heard that any of them have been captured. The temperature of a young Loom

taken on the 14th of August, 1896, was found to be 107°·1 F. Of 23 Looms taken during August seven had fish-bones in their stomachs, while sixteen had nothing.

In 1897 the first Loom was seen on the 20th of March. On the 7th of May, during an excursion to Mabel Island, many Looms and Rotges were seen on the cliffs. There were many Looms making a great noise on the rocks at Cape Flora on the same date, and on the 16th they were in full force on their breeding-ledges in the morning, but in the afternoon there were few, and at night the clouds were down to 300 feet, and all appeared to have left. This visiting and leaving the cliffs continued throughout May and part of June. On the 1st of July I went up the talus (600 feet) and secured about fifty eggs. Some of the eggs were resting in very wet places, but this the bird did not seem to mind so long as it could get a place on a ledge of these densely crowded rocks. There were thousands upon thousands of Looms nesting on cliffs at the back of Elmwood, our station at Cape Flora, the whole place being alive with them.—W. S. B.]

20. *MERGULUS ALLE (Linn.).

Payer, *op. cit.* ii. p. 91; Feilden, *t. c.* p. 109; Neale, *P. Z. S.* 1882, pp. 652, 653; Nansen, *op. cit.* ii. pp. 308, 312, 320, 351, 403, 404, 410, 414, 438.

The collection contains four Little Auks from Cape Flora three of which were obtained on the 11th of April, 1895, and one on the 27th of April, 1897.

This is one of the commonest birds inhabiting Franz Josef Land, where it is widely distributed. Dr. Neale found it breeding in great numbers in the south on the lofty cliffs at Gray Bay, also many at Cape Forbes; and Sir Clements Markham (*Proc. Roy. Geogr. Soc.* iii. p. 133) mentions a rookery at Bruce Island.

Dr. Nansen observed it to the north-east of Franz Josef Land, in lat. 82° N., on the 10th of June, 1895, and on the 26th of June many were seen in the same latitude. At the Isles of Hvidtenland, on the 8th of August, a number

of Little Auks were noted; and at Torup Island, on the 17th, there were "myriads." On the 10th of March, 1896, at his winter-quarters on Frederick Jackson Island, Dr. Nansen mentions that "millions" were seen flying up the sound at 6 A.M., and "when we went out at 2 in the afternoon there was an unceasing passage of flock after flock out to sea, and this continued until late in the afternoon." It was also observed (p. 410) that this species and the Black Guillemot invariably set forth from the land at certain times of the day towards the open sea, returning in broken lines to their nest-rocks again. At the basaltic cliffs of Cape Fisher, on the 3rd of June, 1896, he found these birds breeding in swarms.

Dr. Neale tells us that the Little Auk departed from Cape Flora in the autumn of 1881 during the first week of September; and was first observed there in the spring of 1882 on the 2nd of March. It arrived at Frederick Jackson Island in 1896 on the 25th of February, as related by Dr. Nansen.

[The Rotges appear to have left Cape Flora about the 14th of September in the autumn of 1896; and they returned on the 9th of March, 1897, for on that day I noticed their brilliantly red droppings in the snow: this was the first sign that the Rotges had returned, but we did not see them on that day. On the 17th of March they were in plenty at the Gully Rocks, and, as far as could be seen, they were all in full summer plumage. There were also many of these birds observed on Windward and Mabel Islands during the month. Like the Looms, the Rotges continually occupied and deserted their breeding-cliffs during April, May, and early June. After the 10th of June the Little Auks were seen on the rocks every day during our stay. They bred in the cliffs, at both east and west ends, at Cape Flora in great numbers, though most plentifully in the Gully Rocks. Dr. Koettlitz and I saw a good many in the cliffs at Cape Forbes on the 24th of May.—W. S. B.]

[?] *FRATERCULA ARCTICA* (Linn.).

Lieut. Payer (op. cit. ii. p. 91) mentions the "Lumme

(*Mormon arcticus*)” as one of the birds “found in the region between Novaya Zemlya and Franz Josef Land . . . most of these occurred also on the coasts of Franz Josef Land.”

It is not probable that this bird was one of the species observed on the coasts of this northern archipelago. It has not come under the notice of any of the explorers who have since visited Franz Josef Land; and it is, moreover, a somewhat uncommon species on the west coast of Novaya Zemlya, which seems to be the extreme limit of the Puffin’s eastern distribution in the European Polar area. It is, however, a fairly common species in Spitsbergen.

21. **COLYMBUS SEPTENTRIONALIS* Linn.

Neale, P. Z. S. 1882, pp. 653, 654.

The Red-throated Diver has only come under the notice of Dr. Neale, among all the explorers of Franz Josef Land. Rain-Geese (*Colymbus septentrionalis*), he tells us, were seen and shot on the cliffs 700 feet above sea-level, presumably at Cape Flora, but no nests were seen.

It is somewhat strange that such a conspicuous, well-known, and characteristic circumpolar species should have escaped the notice of the other visitors to the same place, and to other parts of the archipelago.

Dr. Koettlitz informs us that three adults and a young bird were seen and shot at Bell and Mabel Islands, on the 11th of August, 1895; and that they were the only Red-throated Divers seen by the Jackson-Harmsworth Expedition in Franz Josef Land.

22. **FULMAREUS GLACIALIS* (Linn.).

Procellaria glacialis Payer, op. cit. ii. p. 91; Neale, P. Z. S. 1888, p. 653; Nansen, op. cit. ii. pp. 244, 295, 349, 414, 437.

The Fulmar Petrel seems to be widely distributed and probably breeds locally over a wide area in the region.

Dr. Nansen observed it on the 16th of June, 1895, when approaching Franz Josef Land, over the ice, from the north-east; and again early in August at the Isles of

Hvidtenland, and later still on Frederick Jackson Island in September. On the 3rd of June, 1896, he found it breeding at Cape Fisher (p. 437).

Dr. Neale only alludes to the "Molly" as a migratory bird, which remained at Cape Flora so late as the 28th of October, 1881, and returned in the following spring on the 24th of April; and tells us nothing further concerning it.

[Mr. Wilton saw the last Molly on the 6th of October, 1896. The first seen in 1897 was on the 7th of April. On May 5th we found these birds breeding at the east end of Mabel Island in abundance, on the basaltic crags. They were then making a peculiar Duck-like sound, quacking in quick succession. Mollies were also seen at Cape Forbes by Dr. Koettlitz and myself, and probably breed there.—W. S. B.]

The subjoined tabulation affords, in a condensed form, a comparison between the ornithology of Spitsbergen and Novaya Zemlya and that of Franz Josef Land:—

Orders.	Spitsbergen.	Novaya Zemlya.	Franz Josef Land.
	Species.	Species.	Species.
Passeres	2	6	3
Striges	1	1	1
Accipitres	1	2	1
Anseres	6	10	2
Gallinæ	1	None	None
Limicolæ	5	8	4
Gaviæ	7	8	6
Pygopodes	5	7	4
Tubinares	1	1	1
Totals	29	43	22

It only remains to remark that, of the twenty-two species which form the avifauna of Franz Josef Land, only ten have been found breeding (though several more—probably five—undoubtedly nest there); and that several of the birds in the

grand total are mere stragglers. Six species, the occurrence of which is extremely doubtful, have been recorded for the archipelago; these have been excluded from our calculations for reasons already stated under the particular species.

Just as we were going to press, we received from Dr. Koettlitz, the geologist to the Jackson-Harinsworth Expedition, a communication containing much valuable information. Where absolutely necessary, the facts have been incorporated under the respective species to which they refer. But the useful data on the arrival and departure of the various birds which came under the Doctor's notice, prior to Mr. Bruce's advent in Franz Josef Land, are given below. We desire to express our acknowledgments to Dr. Koettlitz for his valuable and much-appreciated contribution.

Dates of Arrival.

	1895.	1896.
<i>Mergulus alle</i>	Feb. 25	Feb. 27
<i>Uria mandti</i>	„ 25	„ 24
„ <i>bruennichi</i>	April 4	Mar. 26
<i>Pagophila eburnea</i>	„ 16	April 6
<i>Fulmarus glacialis</i>	„ 21	„ 8
<i>Larus glaucus</i>	May 6	„ 4
<i>Plectrophenax nivalis</i>	April 20	„ 22
<i>Rissa tridactyla</i>	June 7	„ 26
<i>Tringa</i> [^p <i>striata</i>]	„ 13	May 30
<i>Bernicla brenta</i>	„ 13	June 2
<i>Stercorarius crepidatus</i>	„ 17	„ 12
<i>Sterna macrura</i>	„ 17	„ 18
<i>Somateria mollissima</i>	„ 24	May 28
<i>Streptilas interpres</i>	„ 27
<i>Calcarius lapponicus</i>	„ 28
<i>Nyctea scandiaca</i>	„ 26

Dates of Departure.

	1895.
<i>Colymbus septentrionalis</i>	Aug. 11
<i>Stercorarius crepidatus</i> and young	Sept. 4
<i>Uria bruennichi</i>	„ 14
<i>Sterna macrura</i>	„ 17
<i>Fulmarus glacialis</i>	„ 18

Dates of Departure (continued).

	1895.
<i>Tringa</i> [? <i>striata</i>]	Sept. 17
<i>Larus glaucus</i>	" 25
<i>Rissa tridactyla</i>	" 25
<i>Plectrophenax nivalis</i>	" 30
<i>Pagophila eburnea</i> (adult)	" 18
" " (young)	" 30
<i>Uria bruennichi</i> (1 young).....	" 30
<i>Bernicla brenta</i>	Oct. 1
<i>Mergulus alle</i>	" 1
<i>Uria mandti</i>	" 1

XXIV.—Further Notes on the Ornithology of the Cape Verde Islands. By BOYD ALEXANDER.

THE following observations are the result of a second visit to the Cape Verde Islands in October 1897. Before giving them, however, I should like to withdraw two suppositions made in my previous paper (*suprà*, pp. 74–118):—

Firstly, that the Kite of the Canary Islands recorded by Mr. Meade-Waldo under the name of *Milvus iclinus* is probably the Black Kite (pp. 79–80). This is not the case, *M. iclinus* being the species resident in the Canaries.

Secondly, the inference that all Desert-Larks lay no more than a single egg (p. 112). This was assumed on the strength of several nests of Desert-Larks, each containing no more than one young bird, having been found in May; but the dying away of all vegetable growth, and consequently of the insect-life which is usual at that time of the year on the islands, would be sufficient to account for many eggs of those early-breeding individuals being unfertile.

NEOPHRON PERCNOPTERUS.

From October to the end of January few adult Egyptian Vultures are to be met with around the villages. During that time they have all gone in couples to the highest hills, where they breed, and keep away from habitations as much as possible, seldom coming into the valleys unless a goat or cow is slaughtered by the peasants. Then from February